

FY16 Budget Request: CERCLA 108(b) and Assessment Pilot for Hard Rock Mining Sites

Goal

The goals of the CERCLA 108(b) Pilot Hard Rock Mining Sites project are to:

- Avoid or reduce future environmental and human health problems and taxpayer liability by demonstrating the early use of CERCLA Preliminary Assessment/Site Inspection (PA/SI) authorities at operating hard rock mining sites to identify actual or potential releases impacting human health and the environment as well as shortfalls in financial responsibility to address these releases left behind by mine owners and/or operators (O/Os.) This effort may result in the need for enforcement orders to O/Os to make adjustments now to their current operations, long term plans and facility financial responsibility.
- Assist the Office of Resource Conservation and Recovery in gaining a better understanding of the benefits of early enforcement at mining, and potentially other, sites, and assist in the drafting of the 108(b) Financial Responsibility Rule.
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Background: OECA started employing the early assessments of active mine sites in 2013. The goal of the OECA National Mining Initiative for CERCLA was to use early CERCLA assessments and evaluations of high risk operating mine sites that are not yet on the NPL in an effort to prevent them from becoming future NPL sites. The benefit of doing these early assessments at is that an operating facility generally is financially solvent, has a positive cash flow, can pay for cleanup activities, and can obtain financial responsibility required under a CERCLA order. In addition, it is expected that the PA/SIs at these sites can assist the Office of Resource Conservation and Recovery in gaining a better understanding of earlier enforcement at mining, and potentially other, sites, and assist in the drafting and providing additional support of the 108(b) Financial Responsibility Rule

Implementation of the strategy was achieved primarily by conducting PA/SIs at active mining sites. With minimal up-front expenditures, EPA identified potential problems at these active mining sites and, by addressing those problems, EPA may have taken a significant step toward helping to prevent these mine sites from becoming future Superfund sites. The proposed FY16 project will provide further evidence of such prevention. Following are summaries of the two pilot site efforts carried out under this initiative.

Past Pilot Site Summaries:

Cripple Creek and Victor (CCV) Gold Mining Site:

- Through PA, Region 8 identified UIC permit as primary concern to pursue further; EPA has direct responsibility for implementation of the UIC program under the Safe Drinking Water Act; Class V Well Program has not been delegated to the State of Colorado.
- CCV needs Federal UIC permit for portions of expansion project involving disposal of fluids underground.
- February 2014 EPA met with CO and CCV mine environmental compliance officers to discuss concerns about heap leach facility closure plans and concerns that current closure plans do not comply with UIC rules.

- Alternatives for closure were proposed by CCV officers and discussed, will be considered by Region 8 UIC staff.
- CCV pilot has taken major step toward goal, as presented in Initiative, of helping to prevent the mine site from becoming a future NPL site: early assessment and evaluation has identified UIC permit issue; UIC permit, and future requirements, with monitoring by Region 8, will help prevent site from becoming future Superfund site.
- Additional interaction with State and CCV could lead to more protections.

Challenges

- Significant sensitivity due to State concern re EPA involvement at active mining site, which is regulated by the State, along with Congressional interest from several CO Congressional reps. Similar challenges could be faced in many other western states due to their reliance on mining.

Thompson Creek Mining Site, Idaho

- Region 10 completed a PA/SI on Federal Lands in 2013 to determine future release scenarios and the cost of implementing long-term water treatment. The Region spent approximately \$17,000 to conduct the PA/SI. The PA summary indicated several areas of concern.
- EPA identified a number of significant concerns and provided recommendations for resolving the concerns. EPA also pointed out that some of the concerns were of sufficient magnitude to support an adverse rating if not resolved.
- The final SI was submitted with the Region's final comments on the EIS.
- The SI Report for the site looked specifically at potential release scenarios in the absence of financial responsibility for long term water quality treatment. An independent cost estimate range for long term water quality treatment was also included.
- Thompson Creek pilot accomplished significant steps toward the Initiative's goal of identifying concerns early on and implementing measures to help prevent operation from becoming a future Superfund site: early assessment and evaluation identified that the current assessment of financial responsibility was deficient for long term water quality treatment. EPA successfully voiced concern about adequate financial responsibility and made it clear to all stakeholders that CERCLA tools were applied to ensure a positive outcome (the SI report was provided). Although BLM is unwilling to include the actual cost estimate for financial responsibility in the EIS, BLM will include language regarding financial responsibility in the EIS.

Proposed Pilot Site Summaries:

Superfund Assessment and Financial Responsibility Cost Estimation at the Buckhorn Mountain Mine and Kettle River Tailings Facility – USEPA Region 10

Buckhorn Mountain Mine is an underground gold mining operation in Northeastern Washington State. The operation trucks the ore to a milling operation about 48 miles away in Kettle River, where a tailings facility is located. Kettle River has been in operation since 1989 receiving ores from a variety of mines in the area and Canada - and maintains a wet TSF with a capacity for 4.7 million tons of tailings and a dam height of 200 feet.

EPA Region 10 is still gathering information with respect to current volumes, water treatment and closure plans for both the mine and the Kettle River tailings facility.

In 2012 the Kettle River facility was cited for water quality violations by the Washington State Department of Ecology (Ecology) resulting from an inability to manage water (resulting in impacts to groundwater and landslides) at the site which has impacted water in a nearby creek – the details of

which are provided in the following link: <http://www.ecy.wa.gov/news/2012/240.html>.

The Kettle River tailings facility (<http://www.kinross.com/operations/operation-kettle-river-buckhorn-usa.aspx>) is one of the few wet tailings facilities in Region 10, and EPA has added the site to its list of operations with similarities to the Mt. Polley Site in Central BC which experienced a tailings dam failure in August 2014. The Region has concerns about the potential for future releases from this site, and the adequacy of financial responsibility to deal with long term water treatment and dam maintenance.

The Region will work closely with Ecology over the next several months to determine appropriate next steps with respect to both of these sites, but recommends the following goals and objectives for the project:

- Develop an EPA independent financial responsibility cost estimate for both facilities in order to facilitate Ecology efforts to secure the appropriate bonds.
- Determine the nature and extent of past releases from the Buckhorn Mountain Mine (potential for CERCLA removal or remedial action).
- Examine the adequacy of efforts to control water at the Buckhorn site since the 2011/12 releases and landslides.
- Gain a detailed overview of the Kettle River Tailings facility by performing a CERCLA SI to determine if action is required, and the potential for future releases from the facility. Incorporate Mt. Polley recommendations into the analysis.
- Determine the long-term Operations and Maintenance obligations for both sites, including long-term water management and treatment.

The deliverables for this effort will include a formal CERCLA Site Inspection document, including sections on data gaps and potential release scenarios; and an independent EPA Financial Responsibility cost estimate for both facilities. Through this work, and these deliverables, EPA will be able to assist Ecology in obtaining appropriate FA, and taking steps toward addressing concerns proposed by a Mt. Polley-type tailings facility in the U.S. Completion of these deliverables is expected by mid-summer, 2016.

Benefits of Employing Early Preliminary Assessments of Active Mining Sites

- The OECA National Mining Initiative incorporates the early use of CERCLA authorities (e.g., Preliminary Assessment/Site Inspection (PA/SI)) at active mining sites to identify and address actual or potential releases and ensure adequate financial responsibility instruments are in place at active mine sites while mining companies are still viable, and to address gaps created by the RCRA Bevill Exemption.
- While it may be difficult to fully estimate the exact cost savings or environmental benefits to the program as a result of these PA/SIs at active mining sites, preventing just one of these sites from becoming a future Superfund site, with the United States having sole responsibility for implementing response actions, would represent significant savings to the program that could easily be in the hundreds of millions.

Measures

This ongoing effort will identify 2-3 high risk mine sites per year, if possible, at which the Agency can conduct PA/SIs to evaluate site conditions. This effort may lead to an enforceable schedules to comply with the applicable environmental laws (including financial responsibility requirements) to reduce actual

or potential releases impacting human health and environment.

Measures will include both quantitative and qualitative data as marked below. Qualitative and quantitative measure results will be reported by the end of each Fiscal Year. These measures may include, but are not limited to:

- Financial responsibility (FR) gaps, as expressed by the total amount of FR in place before the PA/SA is conducted and the instruments used to guarantee it, the amount recommended as the result of the PA/SA, and the final amount of FR in place at the end of the PA/SA and/or enforcement action(s), the financial instrument(s) used to provide it, and the amount of FR guaranteed by each instrument. (Quantitative)
- Modifications in current site operations. (Quantitative) CAN WE DEVELOP A SHORT LIST OF CATEGORIES FOR POTENTIAL MODIFICATIONS TO INCLUDE HERE THAT WILL BE RELATIVELY EASY TO REPORT ON?
- Adjustment/Modification to long term operations and maintenance plans and/or practices at the facility. (Quantitative.)
- Potential risks avoided. (Qualitative)